

Case 3482

***Psittacus tenuirostris* Kuhl, 1820 and *Licmetis pastinator* Gould, 1841 (currently *Cacatua tenuirostris* and *Cacatua pastinator*; Aves, Psittaciformes): conservation of usage by designation of a neotype for *Psittacus tenuirostris* Kuhl, 1820**

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Abstract. The purpose of this application, under Article 75.6 of the Code, is to conserve prevailing usage of the species group names *tenuirostris* Kuhl, 1820 and *pastinator* Gould, 1841, long employed for the southeastern and respective southwestern species of Australian long-billed corellas, genus *Cacatua* Vieillot, 1817. The only apparently traceable syntype of *tenuirostris* Kuhl has been found to be of the southwestern species; the resulting nomenclatural shift would destabilise established usage and confound past and future references to the name in literature. To conserve the long-accustomed use of *tenuirostris* Kuhl for the southeastern corella and to maintain *pastinator* Gould as the valid name for the southwestern long-billed corella, we propose that the only known syntype of *tenuirostris* Kuhl be set aside and replaced with a neotype of the southeastern species.

Keywords. Nomenclature; taxonomy; CACATUIDAE; *Cacatua tenuirostris*; *Cacatua pastinator*; cockatoos; long-billed corella; Australia.

1. Since 1912 (Mathews, 1912, p. 266), the southeastern Australian long-billed corella has been known as *Cacatua tenuirostris* (Kuhl, 1820); and since 1841 (Gould, 1841, p. 175), the similar-looking long-billed corella of southwestern Australia has been known as *Cacatua pastinator* (Gould, 1841) whenever that species has been treated as distinct. Both species have high profiles in Australian ornithology and the human community, as pest species in agriculture, as threatened fauna in wildlife legislation, and in aviculture. Their respective names, accordingly, are in wide use in Australia and internationally, in handbooks (Schodde & Tidemann, 1986; del Hoyo et al., 1997; Higgins, 1999; Beruldsen, 2003), field guides (Pizzey & Knight, 1997; Simpson & Day, 1999), checklists (Checklist Committee RAOU 1926; Peters, 1937;

Condon, 1975; Sibley & Monroe, 1990; Schodde, 1997; Dickinson, 2003; Gill & Wright, 2006; Christidis & Boles, 2008), monographs of Psittaciformes (Lendon, 1973; Forshaw, 1978, 1981), avicultural manuals (Shephard, 1989), Australian bird atlases (Blakers et al., 1984; Barrett et al., 2003), scientific journals (Schodde et al., 1979; Ford, 1985; Smith, 1991), and action plans for avifaunal conservation (Garnett & Crowley, 2000). Overall, the names have been employed for respective southeastern and southwestern species for a century and more, in hundreds of references.

2. Because Heinrich Kuhl and C.J. Temminck often worked side by side when they visited England in 1819 to work over collections of parrots, even describing new species jointly, it has commonly been presumed that specimen material on which Temminck based new species was also seen and used by Kuhl (e.g. Mathews, 1925, p. 135; Schodde, 1997, p. 97). On that visit, Temminck (1821, p. 115) described *Psittacus nasicus* from a single specimen of the southeastern Australian corella in the collection of the Linnean Society of London. It had been collected by Robert Brown at Port Phillip Bay, Victoria, on Matthew Flinders' circumnavigation of Australia in 1801–1803. So it has been thought that Kuhl (1820, p. 88) used the same material for his earlier description of *Psittacus tenuirostris* (Dickison, 1928, p. 82; Whittell, 1954, p. 53 (part 1); Schodde, 1997, p. 97). In his original and only description of *P. tenuirostris*, Kuhl (1820, p. 88) nevertheless recorded specimens of long-billed corellas only 'In Museo Parisiensi, Bruksiano Londinensi', from no more a precise location than 'Nova Hollandia'. No mention is made of any material in the collection of the Linnean Society or British Museum; and the description itself, simple and general, fits both southeastern and southwestern corellas.

3. Although it is possible that the London specimen (or specimens) in the 'Museum Bruksianum' (= Anatomical and Zootomical Museum of Joshua Brookes = Brookesian Museum of Comparative Anatomy) was of the southeastern species, also from Flinders' voyage and somehow acquired when the original Flinders collections in the British Museum began to disappear (Mathews, 1925, p. 19 – see under Brown, Robert), there is no firm evidence. The birds in the Brookes Museum were themselves sold off and dispersed in 1830 (Mathews, 1925, p. 19 – see under Brookes, Joshua), and appear to have perished; we have not traced any. Mathews (1925) quotes the Brookes sale catalogue listing a *Plyctolophus macrorhamphus* (nomen nudum), which may have been a syntype of *Psittacus tenuirostris* Kuhl, but again evidence is lacking. It is also possible that a study skin of the southeastern species in the National Museum of Natural History (Naturalis), Leiden, obtained by Temminck came from the Brookes Museum, as Temminck is known to have bought material from Brookes (J. van Tol, pers. comm.). It is annotated 'Psittacus nasicus Nov. Holl. Mér.' (= southern Australia) in Temminck's hand, but is not the holotype of *nasicus* Temminck, which passed directly to the British Museum from the Linnean Society in 1863 (Sharpe, 1906, pp. 254–255; Mathews, 1925, p. 19) where it remains today (NHM 1863.7.6.3). Nevertheless, neither labelling nor the archives of the Naturalis Museum hold any information connecting the Leiden skin to the Brookes Museum (J. van Tol, pers. comm.). Nor was it recognised as a type of either *Psittacus tenuirostris* Kuhl or *P. nasicus* Temminck by van den Hoek Ostende et al. (1997) in their list of avian non-passerine types in the Naturalis Museum. So, after extensive search and correspondence, we can find no evidence that it was seen by Kuhl for his description of *Psittacus tenuirostris*; it may well have come directly from the British Museum, with which Temminck also dealt.

Table 1. Measurements of the southeastern long-billed corella (*Cacatua tenuirostris*) and present southern and northern populations of the southwestern corella (*Cacatua pastinator*), in comparison with those of the Paris syntype of *Psittacus tenuirostris* Kuhl, 1820 and the three specimens of southwestern corella in the Academy of Natural Sciences, Philadelphia, presumed from the Swan River region. Ranges of measurements cover 95% of individuals. Wing measured as the flattened chord from the shoulder, crest measured and flattened, from its base on the skull to its tip.

Taxon	Sex	n	Crest	Wing	Tail/wingratio	Culmen	Mean culmen/ wing ratio
<i>Cacatua tenuirostris</i>	male	41	28–34	270–285	0.43–0.46	–	–
<i>Cacatua tenuirostris</i>	female	44	28–34	267–280	0.43–0.47	–	–
Type of <i>Psittacus tenuirostris</i> Kuhl (MHNP 2004–77)	unsexed	–	52	296	0.50	43.0+	0.145
<i>Cacatua pastinator</i> (southern isolate)	male	15	48–60	305–320	0.48–0.51	45.0–52.0	0.153
<i>Cacatua pastinator</i> (southern isolate)	female	19	45–60	300–315	0.48–0.52	44.0–49.0	0.147
ANSP 22244	male	–	51	310	0.52	43.1	0.139
ANSP 22245	male	–	53	314	0.47	43.7	0.139
ANSP 22243	female	–	46	309	0.48	43.8	0.142
<i>Cacatua pastinator</i> (northern isolate)	male	42	46–57	290–315	0.46–0.50	40.0–46.0	0.141
<i>Cacatua pastinator</i> (northern isolate)	female	44	43–56	285–305	0.47–0.51	38.0–43.0	0.137

4. One specimen that would have been used by Kuhl – the only one that we can confirm – is the single pre-1819 study skin of a corella with a long bill in the Muséum national d'Histoire naturelle, Paris (Voisin & Voisin, 2008, p. 472). Registered in the Catalogue Général with number 2004 – 77 (formerly Nouveau Catalogue 722 and Ancient Catalogue 1559), it is of the western corella, *Cacatua pastinator* (Gould, 1841). It has the wing structure of that species and, although faded, lacks the reddish peri-orbital wash and pale scarlet pectoral bar of down characteristic of the southeastern species (see Schodde et al., 1979 for traits). It also fits the southwestern, not southeastern, species in measurements (mm): wing 296, tail 147, and crest 52 (Table 1). Collected by the Expedition Baudin without locality or any other field data, this specimen was probably taken in 1801 or 1804 on the Swan River or in Geographe Bay in southwestern Australia, the only landfalls made by that expedition in the then range of the western corella (Whittell, 1954, part 1, pp. 58–69).

5. The consequences of this finding will not only disrupt and destabilise established nomenclature for Australia's long-billed corellas but also confuse it by shifting the name *tenuirostris* Kuhl, 1820 from one taxon to another, thereby confounding past and future references to the corellas in literature. In these circumstances, we believe that the simplest solution for maintaining accustomed usage for both southeastern and southwestern species would be to replace the only known extant syntype of *tenuirostris* Kuhl with a neotype of the southeastern species under Article 75.6 of the Code.

6. As an appropriate neotype, we have considered both the holotype of *Psittacus nasicus* Temminck in the Natural History Museum, London (NHM 1863.7.6.3) and a modern, soundly prepared specimen in an Australian national museum. Guiding our considerations have been presumed type locality, security, accessibility for study,

state of preservation and condition, and expression of the critical identification features of the southeastern species. The presumed type locality of *tenuirostris* Kuhl has been Port Phillip Bay (Dickinson, 1928, p. 82; Whittell, 1954, p. 53 (part 1); Schodde, 1997, p. 97), the same source as *nasicus* Temminck. Yet it can be argued that because Kuhl designated its type locality simply as 'Nova Hollandia', and certainly included the southwestern species in the original description, any locality within the range of the southeastern species would be satisfactory for *tenuirostris* (cf. Article 75.3.6 of the Code). Note here that recent taxonomic study has found the southeastern species to be monotypic, with a restricted range in southeastern Australia from southeast South Australia through southwest Victoria to the Riverina region in south central New South Wales (Schodde 1984). For security, the Natural History Museum, London has an unquestionable reputation, yet Australian national museums are arguably as safe. All, particularly the national biological collections operated by the Commonwealth Scientific and Industrial Research Organisation (CSIRO), have first-class curatorial practices, and secure, air-conditioned housing facilities second to none. Users are central to the issue of accessibility for study; and most will be Australian: having type material available in Australia will be more convenient to them than in an institution on the other side of the world. Of course, digital scanning simplifies access everywhere today – but we have found in ornithological practice that scanned images and reliance on externally provided data imposes on others and is rarely quite as convincing or reliable as a specimen in the hand. Ultimately, we have been swayed by the condition of the holotype of *nasicus* and its expression of the traits of the southeastern species. Now over two centuries old and prepared with late 18th century technology, this specimen is beginning to disintegrate and has to be kept in a plastic bag. It is also unsexed and so dirty and ragged about the head and breast that diagnostic morphological traits are no longer clear. We do not believe that it would provide a satisfactory neotype for *Psittacus tenuirostris* Kuhl; and accordingly we propose instead specimen ANWC 37645, adult male, from Moira State Forest, Mathoura, south central New South Wales, collected on 27 February 1983, and lodged in the Australian National Wildlife Collection, CSIRO, Canberra, Australia. This specimen shows all traits described for the southeastern Australian species by Schodde et al. (1979) and in Higgins (1999).

7. In support of this action, we also propose that the names *tenuirostris* Kuhl, 1820 and *pastinator* Gould, 1841 for the southeastern and southwestern Australian long-billed corellas, respectively, be placed on the Official List of Specific Names in Zoology, to settle their application. For this, the type material of *pastinator* Gould needs to be established. In his original description of *pastinator*, Gould (1841, p. 175) specified neither specimens nor a locality more precise than 'Western Australia'. After a search of relevant European and North American museums, only three candidate types have been found, all in the collections of the Academy of Natural Sciences, Philadelphia: two in its Gould Collection (ANSP 22243 ♀, 22244 ♂) and a third, traded from Gould, in the Duke of Rivoli Collection (ANSP 22245 ♂). Stone *in* Stone and Mathews (1913) identified one of them as the type (i.e. lectotype) (ANSP 22244), but Meyer de Schauensee (1957) did not accept it. Neither its measurements, nor those of the others (Table 1), match those of the converted measurements in Gould's original description of *pastinator* particularly closely. Judged by the high standard of their preparation, all three specimens *may* have been collected by John Gilbert on one or

both of his two visits to southwest Australia in March 1838 – January 1840 and July 1842 – December 1843, but there is no collector's name on any of the specimens. The dates are important because Gould first reported on *pastinator* on 25 October 1840 (Gould, 1841). Thus only specimens from Gilbert's first expedition, the last of which were despatched to London on the *Shepherd* on 1 January 1840 (Whittell, 1942a), come into contention as types. Unfortunately, none of the Gould corellas in ANSP are labelled with date of collection, nor do other records shed any light on that matter. Inventories of material gathered by Gilbert in Western Australia are incomplete for both expeditions (Whittell, 1941, 1942a, b); the only mention of corellas is of a skeleton taken on the first and of eggs taken on the second. Therefore it is not possible to establish whether any of the three specimens were available to Gould for his description of *pastinator*, adding to doubt about their status as types.

8. Complicating the issue is taxonomic differentiation: populations of the western long-billed corella are separated today in two morphometrically disparate subspecies, one in far southwest Australia some 200 km south of Perth, and the other well to the north of that city (Table 1). Ford (1987) used an innovative approach to work out the subspecies to which Gould's name *pastinator* applied. Extrapolating the measurements in Gould's original description multivariately against those of southern and northern forms, he concluded that they applied to the southern form (also Schodde 1997, p. 93). Consequently, *pastinator* Gould has been used for the physically larger southern subspecies ever since, and even before (e.g. Schodde et al., 1979; Ford, 1987; Schodde, 1997; Johnstone & Storr, 1998; Higgins, 1999; Dickinson, 2003). In contrast, the *unconfirmed* type material of the southwestern long-billed corella in the Academy of Natural Sciences in Philadelphia is clearly of the northern subspecies, judged by both length of bill and bill/wing ratios (Table 1).

9. To establish the application of *pastinator* unambiguously in the absence of confirmed type material, Schodde (1997, p. 93) took the step of designating a neotype from the population of the southern subspecies in southwestern Australia: WAM A18537, adult female, from Nabagup Farm, Lake Muir, far southwest Australia. This designation conserves prevailing usage, and satisfies collectively: (1) Article 75.3.1 of the Code by clarifying the taxonomic identity of the nominal taxon, (2) Article 75.3.2 by giving bibliographic references to its differentiating characters, (3) Article 75.3.3 by providing the necessary data to identify the neotype specimen, (4) Article 75.3.4. by giving reasons for believing that the original type material cannot be reliably traced, (5) Article 75.3.5 by referring to evidence that the neotype is consistent with the original description of original type material, (6) Article 75.3.6 by selecting the neotype from within the original type locality: 'western Australia', and (7) Article 75.3.7 by designating a specimen in a recognised scientific institution, the Western Australian Museum. We recommend acceptance of this designation.

10. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all previous type fixations for *Psittacus tenuirostris* Kuhl, 1820 and to designate specimen ANWC 37645 lodged in the Australian National Wildlife Collection, CSIRO, Canberra, Australia as the neotype;
- (2) to place on the Official List of Specific Names in Zoology the name *tenuirostris* Kuhl, 1820, as published in the binomen *Psittacus tenuirostris* and as defined by the neotype designated in (1) above.

- (3) to place on the Official List of Specific Names in Zoology the name *pastinator* Gould, 1841, as published in the binomen *Licmetis pastinator* and as defined by the neotype WAM A18537 lodged in the Western Australian Museum.

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